

**City of Trinidad  
PWSID CO-0136800**  
**2011 Annual Drinking Water Quality Report**  
**For Calendar Year 2010**



*Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.*

We are pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water.

**General Information About Drinking Water**

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV-AIDS or other immune system disorders, some elderly, and infants can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and microbiological contaminants call the EPA Safe Drinking Water Hotline at 1-800-426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides** that may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, that can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

**Our Water Source(s)**

The system's source of water is North Lake Reservoir & Monument Lake Reservoir as a secondary source.

The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report for our water supply, you may obtain a copy of the report by visiting [www.cdphe.state.co.us/wq/sw/swaphom.htm](http://www.cdphe.state.co.us/wq/sw/swaphom.htm) or by contacting James Fernandez or Linda Vigil at (719) 846-9843.

Potential sources of contamination in our source water area come from Existing/Abandoned Mine Sites, Land Use/Land Cover Types such as Raw Crops, Pasture, Hay, Evergreen Forest, Mixed Forest, Road Miles, and Septic Systems.

The Source Water Assessment Report provides a screening-level evaluation of potential contamination that could occur. It does not mean that the contamination has or will occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan.

Please contact James Fernandez at (719) 846-9843 to learn more about what you can do to help protect your drinking water sources, any questions about the annual drinking water quality report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

**Terms and Abbreviations**

To help you understand the terms and abbreviations used in this report, we have provided the following definitions:

- **Parts per million (ppm) or Milligrams per liter (mg/L)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.
- **Parts per billion (ppb) or Micrograms per liter ( $\mu\text{g/L}$ )** - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- **Parts per trillion (ppt) or Nanograms per liter (nanograms/L)** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.
- **Parts per quadrillion (ppq) or Picograms per liter (picograms/L)** - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.
- **Picocuries per liter (pCi/L)** - picocuries per liter is a measure of the radioactivity in water.
- **Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **Action Level (AL)** - the concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.
- **Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- **Maximum Contaminant Level Goal (MCLG)** - The "Goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **Maximum Contaminant Level (MCL)** - The "Maximum Allowed" is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **Maximum Residual Disinfectant Level Goal (MRDLG)**: The level of a drinking water disinfectant, below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **Maximum Residual Disinfectant Level (MRDL)**: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **Microscopic Particulate Analysis (MPA)**: An analysis of surface water organisms and indicators in water. This analysis can be used to determine performance of a surface water treatment plant or to determine the existence of surface water influence on a ground water well.
- **Gross Alpha, Including RA, Excluding RN & U**: This is the gross alpha activity compliance value. It includes radium-226, but excludes radon 222 and uranium.

## Detected Contaminants

CITY OF TRINIDAD routinely monitors for contaminants in your drinking water according to Federal and State laws. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, may be more than one year old. The “Range” column in the table(s) below will show a single value for those contaminants that were sampled only once. Violations, if any, are reported in the next section of this report. **The following table(s) show all detections found in the period of January 1 to December 31, 2010 unless otherwise noted.**

NOTE: Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section, that means that City of Trinidad did not detect any contaminants in the last round of monitoring.

Regulated Contaminants Sampled at the Entry Point to the Distribution System							Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)		
Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest-Highest)	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation?	Typical Source
BARIUM	2008	0.042	0.042 - 0.042	1	ppm	2	2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE	2010	1.3	1.3 - 1.3	1	ppm	4	4	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE	2010	0.014	0.014 – 0.014	1	ppm	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
									Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

Disinfection By Products (TTHMs, HAA5, and Chlorite) sampled in the Distribution System								
Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest-Highest)	Number of Samples	Unit of Measure	MCLG	Typical Source	Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)
TOTAL HALOACETIC ACIDS (HAA5)	2010	21.897	7.01 – 30.6	7	ppb	60	Not Applicable	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
TOTAL TRIHALOMETHANES (TTHM)	2010	21.306	13.6 - 30	7	ppb	80	Not Applicable	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Turbidity Sampled at the Entry Point to the Distribution System								
Analyte Name	Sample Date	Level Found	TT Requirement	TT Violation	Typical Sources		Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)	
TURBIDITY	Date:	Highest single measurement: 0.28 NTU	Maximum 1 NTU for any single measurement	No	Soil Runoff		Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.	
	Month: December 2010	Lowest monthly percentage of samples meeting TT requirement for our technology: 100%	In any month, at least 95% of samples must be less than 0.3 NTU	No	Soil Runoff		See Above	
Total Organic Carbon (Disinfection By Products Precursor) Percentage Removal of Ratios of Raw & Finished Water								
Analyte Name	Year	Average of Individual Ratio Samples	Range of Individual Ratio Samples (Lowest – Highest)	Number of Ratio Samples	Unit of Measure	TT Minimum Ratio	TT Violation?	Typical Sources
CARBON, TOTAL	2010	4	1 - 1	4	Ratio	The TT Minimum Level is a Ratio of 1	No	Naturally present in the environment
								Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by products. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Lead and Copper sampled in the Distribution System									
Analyte Name	Monitoring Period	90 <sup>TH</sup> Percentile	Number of Samples	Unit of Measure	Action Level	Typical Source	Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)		
COPPER	1/1/2008 - 12/31/2010	0.219	30	Ppm	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.		
LEAD	1/1/2008 - 12/31/2010	4	30	Ppb	15	Corrosion of household plumbing systems; Erosion of natural deposits	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.		
Radionuclides sampled at the Entry Point to the Distribution System									
Analyte Name	Year	Average of Individual Samples	Range of Individual Samples	Number of Samples	Unit of Measure	MCL	MCL Violation?	Typical Sources	Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)
Combined Uranium	2006	0.25	0 – 0.5	2	ppb	30	0	No	Erosion of natural deposits Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Secondary Contaminants **									
Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest-Highest)	Unit of Measure	Number of Samples	Secondary Standard			
MPA WTP RAW AND FINISHED	2009	N/A	2.3 – 2.3	UNITS	1	N/A			
SODIUM	2008	3	3 - 3	Mg/L	1	N/A			

\*\*Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor or color) in drinking water. EPA recommends these standards but does not require water systems to comply.

### Health Information About Water Quality

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested at your expense. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

### Violations(s) and Formal Enforcement Action(s)

The City of Trinidad had **NO** violations or Formal enforcement actions to report for the calendar year 2010.

**Definition(s):**

*A violation is failure to meet a Colorado Primary Drinking Water Regulations.*

*A formal enforcement action is an escalated action taken by the State (due to the number and/or severity of violations) to bring a*

*Non-compliant water system back into compliance by a certain time, with an enforceable consequence if the schedule is not met.*